ROSETTI, LEANA

From: Bain, Andrew W.
Sent: Monday, October 06, 2014 8:45 AM
To: ROSETTI, LEANA
Cc: Eckley, Chris
Subject: FW: Methyl mercury monitoring for Southeast Connector

Hi Leana,
I really appreciate Chris and Jacob's input! Let's discuss possible next steps with Dave this week. Did you speak with Randy Pahl and establish where the analysis is run? It's quite possible it is already going to our Lab, in which case, perhaps not too difficult or costly to modify the methods.

Thanks,
Andy
2-3167

From: Eckley, Chris
Sent: Saturday, October 04, 2014 5:21 PM
To: ROSETTI, LEANA; Fleck, Jacob
Cc: Bain, Andrew W.; David Friedman
Subject: Re: Methyl mercury monitoring for Southeast Connector

Hi again Leana,
one more thought....read through the Cosumnes River monitoring plan you attached.
In general, this sounds fine, though in that plan they are measuring just whole water MeHg. Ideally whole and filtered water samples would be collected....but if budgetary constraints would limit to one or the other, I would think having a filtered MeHg sample would be better than whole water...Jacob what are your thoughts on this?
Because there is such a large jump in MeHg concentrations between water and the base of the foodweb, there is the potential for small biota with higher MeHg concentration to be included in a whole water sample. Measuring just the dissolved phase, will be more reflective of newly created MeHg and will not be at risk of contamination from plankton, etc. Whole water MeHg values are much harder to interpret since its not clear how much of the MeHg is in the water versus in plankton, etc. Perhaps more of an issue in lakes than in a stream, though.

Calculating loads upstream downstream of the wetlands will be important, so would be good to have discharge measured at the same locations where the concentrations are collected.

Sounds like the Cosumnes River plan had THg sampling as optional. This could potentially work for Steamboat as well...but having the THg numbers in conjunction with the MeHg would be very helpful in a) identifying if an increase in MeHg corresponds to increases in THg or they vary independently; b) the ratio of MeHg/THg..i.e. %MeHg has been used as a surrogate measure of the methylation potential of a system. This could be helpful for the upstream and downstream monitoring to determine if the %MeHg increases as a result of the constructed wetland.

--Chris

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From: ROSETTI, LEANA
Sent: Thursday, September 25, 2014 1:43 PM
To: Eckley, Chris; Fleck, Jacob
Cc: Bain, Andrew W.; David Friedman
Subject: Methyl mercury monitoring for Southeast Connector

Hello Chris and Jacob,

I hope this email finds you well. You have both helped me a lot in the last year in dealing with the Southeast Connector project, and now I have another question for you. As you may recall the project involves the creation of about 80 acres of wetlands, many of which will be fed by Steamboat creek, which is known to have mercury contamination. The latest development is that the Army Corps appears to be fine with the project in its current form, and does not believe that methylation of mercury will be a concern (see the attached "USACE SEC Mercury Memo").

As both of you have opined, the proposal does sound like it may limit formation of methyl mercury, but not with enough certainty to give us total confidence, and a monitoring plan that establishes baseline levels of methyl mercury, as well as levels after construction, is needed to ensure that they aren't exacerbating the problem. While the permittee (RTC, the Regional Transportation Commission) has responded favorably to our general BMP guidelines about materials management and preventing releases of Hg, they've not addressed the monitoring request.

In discussing this with Andy Bain in Superfund and his counterpart David Friedman at NDEP, we had the idea that perhaps the sampling we are requesting could be combined with the sampling that NDEP already does in Steamboat under the 303 (d) impaired waters program. While mercury is not currently the focus, they do sample for total mercury, and could possibly sample for methyl mercury and other relevant compounds as well. If appropriate, we may consider asking RTC to fund NDEP to do the methyl mercury analysis, interpretation and reporting, which may be more cost effective than a standalone monitoring program.

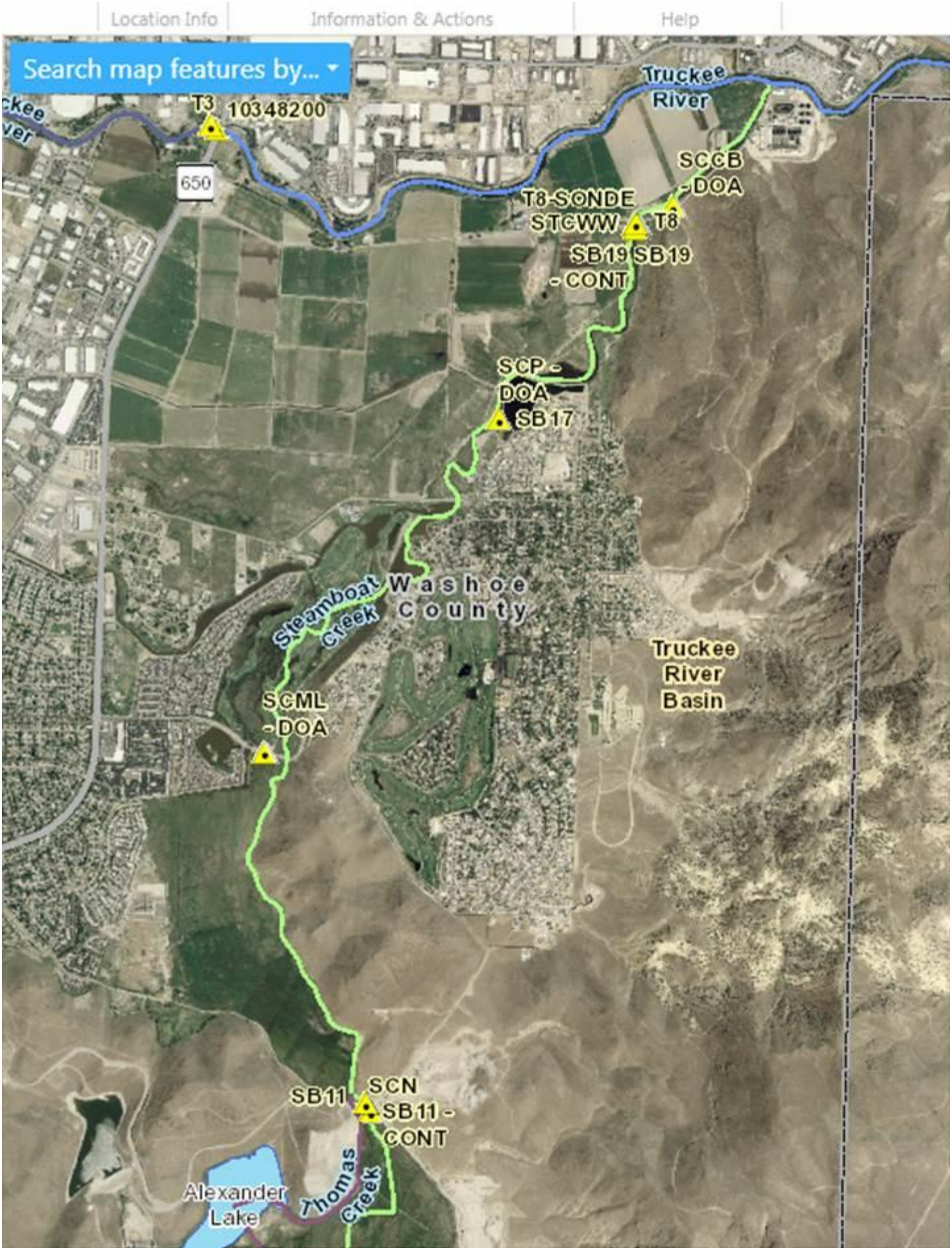
NDEP doesn't have an SAP for the sampling they do, but they did send me the following information on their current sampling:

We sample the water column at the following sites in the Steamboat drainage on a quarterly basis. However, metals (such as total/dissolved Mercury) are only analyzed for twice a year.

SB1	Little Washoe Outfall
SB3	Steamboat Creek @ Pleasant Valley
SB5	Steamboat Creek @ Rhodes Road
SB6	Steamboat Ditch @ Rhodes Road
SB7	Steamboat Creek @ Geiger Grade

SB31	Browns Creek @ Joy Lake Road
SB42	NF Whites Creek @ Arrow Creek Pkwy
SB43	Thomas Creek @ Ventana Pkwy
SB33	MF Whites Creek @ Sage Hill Road
SB44	SF Whites Creek @ Old Virginia Road
SB29	Thomas Creek near Alexander Pond
SB11	Steamboat Creek @ Short Lane
SB17	Steamboat Creek @ Pembroke
SB19	Steamboat Creek @ Cleanwater Way

The locations are here:


Location Info
Information & Actions
Help
Search map features by...
T3
10348200
650
Truckee River
SCCB - DOA
T8-SONDE STCWW
T8
SB19
SB19 - CONT
SCP - DOA
SB17
Steamboat Creek
Washoe County
Truckee River Basin
SCML - DOA
SB11
SCN
SB11 - CONT
Alexander Lake
Thomas Creek

One gap I'm seeing is that there is no sampling at the outlet to the Truckee River, but there is sampling downstream of all of the constructed wetlands, so that may be enough.

I wanted to see if you think the type of monitoring needed would be at all compatible with NDEP's current monitoring, as well as any suggestions for specific examples of monitoring programs that we should recommend to RTC (and perhaps as a result, NDEP). Previously Jacob had suggested the Delta Methylmercury TMDL workplan as an example of a monitoring plan with similar objectives (p.24-30 of Section 6, or p. 28-34 of the PDF page: http://delta-mercury-nps.org/documents/NPSWorkgroup_CollaborativeWorkplan_Draft_20130419.pdf)
Another possible example is in a 401 certification issued for a restoration project in the Cosumnes River that required methyl mercury monitoring, which I've attached; the monitoring details are on p. 10-13. Here, they require fish sampling as well; I'm not sure if that's something crucial to require. In the Cosumnes situation, a TMDL for mercury was in the works. (Interestingly, Steamboat is not considered impaired for mercury, and the results from NDEP sampling has shown total mercury to be nondetect.)

I am also attaching RTC's latest response to EPA's comments regarding mercury methylation issues. I don't see any significant changes in how they are proposing to do the constructed wetlands. Chris, you are a lot more familiar with the project than Jacob; I don't know if you agree. Our main concern has been the Butler Ranch wetlands, which will be flooded by Steamboat and are designed to be wet in the winter/early spring and infiltrate quickly.

Thanks so much,

Leana

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